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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,636	12/30/2003	Ahmad Fakheri	72611-003	6883
29493 7590 05/15/2007 HUSCH & EPPENBERGER, LLC 190 CARONDELET PLAZA SUITE 600 ST. LOUIS, MO 63105-3441			EXAMINER LEO, LEONARD R	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/748,636	Applicant(s) FAKHERI, AHMAD	
	Examiner Leonard R. Leo	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-8,10-12,20,23,26,28,29 and 31-37 is/are pending in the application.
- 4a) Of the above claim(s) 4,10,20,23,29,31 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-8,11,12,26,28,30,32-34,36 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The amendment filed on February 21, 2007 has been entered. Claims 2, 9, 22, 24-25 and 30 are cancelled, claims 1, 3-8, 10-12, 20, 23, 26, 28-29 and 31-37 are pending, and claims 4 and 10 remain withdrawn from further consideration. Applicant is reminded to include the proper claim identifier with respect to the *withdrawn* claims.

### ***Election/Restrictions***

Newly amended or submitted claims 20, 23, 29, 31 and 35 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to the following patentably distinct species:

- I. The species principally illustrated in Figure 1a;
- II. The species principally illustrated in Figure 2d; and
- III. The species principally illustrated in Figure 9b.

The species are independent or distinct because the species are mutually exclusive. See MPEP § 806.04(f).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20, 23, 29, 31 and 35 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 32 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification lacks an adequate written description of the invention. There is no basis for "said helicoidal conduit is a *unitary seamless strand*."

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5, 11-12, 26 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson et al. Regarding claims 3 and 5, Figure 1 of Nelson et al discloses fin segments 21, 22 spaced apart at regular intervals. Regarding claims 11-12 and 26, Figure 2 of Nelson et al discloses fin segments 21, 22 have a plurality of holes corresponding to the number of loops. Regarding claim 34, the device of Nelson et al structurally meets the claim limitations. See MPEP 2114.

Claims 1, 3, 5, 8, 11, 20, 26, 29-30, 34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Newman (2,029,890). Regarding claims 3 and 5, Newman discloses fins 23 having fin segments spaced apart at regular intervals. Regarding claims 8 and 29-30, Figure 1 of Newman discloses helical conduit 24 (page 1, column 2, lines 21-25). Regarding claim 11 and

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26, Figure 3 of Newman discloses fin segments have a plurality of openings 25 corresponding to the number of loops. Regarding claim 34, the device of Newman structurally meets the claim limitations. See MPEP 2114. Regarding claim 36, Newman (page 1, column 2, lines 21-25) discloses the tube 24 is in the form of a helix. Furthermore, as disclosed (page 6, paragraph 2, last line), there is no criticality in the airflow direction, rather merely a preference.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al or Newman in view of Ares.

Nelson et al or Newman discloses all the claimed limitations except a blower within the core.

Ares discloses a heat exchanger comprising a core 16a, 16b having regularly spaced apart fin segments 20a, 20b and blower 44 disposed within the core for the purpose of increasing airflow to improve heat exchange.

Since Nelson et al or Newman and Ares are both from the same field of endeavor and/or analogous art, the purpose disclosed by Ares would have been recognized in the pertinent art of Nelson et al or Newman.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Nelson et al or Newman a blower disposed within the core for the purpose of increasing airflow to improve heat exchange as recognized by Ares.

Claims 7 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al in view of Dailey.

The device of Nelson et al lacks a blower around the core.

Dailey discloses a heat exchanger comprising a core 62 and blower 50 disposed around the core for the purpose of increasing airflow to improve heat exchange.

Since Nelson et al and Dailey are both from the same field of endeavor and/or analogous art, the purpose disclosed by Dailey would have been recognized in the pertinent art of Nelson et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Nelson et al a blower disposed around the core for the purpose of increasing airflow to improve heat exchange as recognized by Dailey.

Claims 32-33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al or Newman in view of Paulman et al.

The device of Nelson et al or Newman lacks the conduit being a unitary seamless strand.

Paulman et al discloses a heat exchanger comprising a spirally (i.e. helicoidal) wrapped conduit 13 with fin 24 (Figure 5, column 6, lines 39-42), wherein the tube is a unitary seamless strand (column 4, lines 53-57) for the purpose of minimizing possible leakage.

Since Nelson et al or Newman and Paulman et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Paulman et al would have been recognized in the pertinent art of Nelson et al or Newman.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Nelson et al or Newman a unitary seamless strand tube for the purpose of minimizing possible leakage as recognized by Paulman et al.

Regarding claim 33, Figure 2A of Paulman et al discloses a noncircular cross-section.

***Response to Arguments***

Applicant's arguments have been fully considered but they are not persuasive.

Regarding applicant's remarks to claim 3, both Nelson et al (Figure 1) and Newman (Figure 2) disclose regular spaced fins.

Applicant has failed to state how and/or why claims 29 and 31-34 define over the prior art of record. As noted above, claims 20, 23, 29, 31 and 35 are withdrawn from further consideration.

Regarding applicant's remarks to claims 7 and 38 (presumable claim 37), the claimed invention does not structurally define over the prior art of record. See MPEP 2114.

Applicant's hypothetically analysis of Newman is misplaced and is not commensurate in scope with the claims.

Lastly, there appears to be no argument with respect to Nelson et al in the rejection of the remaining claims.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, reading "Leonard R. Leo".

LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3744

May 9, 2007